

Wisconsin Pest Survey Report

SOYBEAN CYST NEMATODE SURVEY

Soybean cyst nematode (*Heterodera glycines*) is the greatest yield-reducing pest and disease problem in soybean production in the U.S (1). The map below shows all infested counties in Wisconsin from the first find in a field in Racine County in 1981 to the most recent in Jackson and Polk Counties in 2011. The total number of Wisconsin counties with at least one soybean cyst nematode (SCN) infested field is 50. Soybean acreage in the counties where SCN has been detected adds up to 92% of the soybean crop in Wisconsin. Figure 3 shows SCN distribution in the Canada and the United States (2). Canada rescinded requirements for phytosanitary certification of all crops and soil in 2013. DATCP will continue to provide SCN testing for other importing countries but no

longer conduct an annual survey. Soybean growers in all parts of the state are strongly urged to sample their fields for SCN. SCN may go undetected in fields because of the lack of above-ground symptoms but can still cause yield losses. Effective control management requires accurate assessment of each individual field and choosing resistant varieties if necessary.

Fields may be sampled at any time that the soil is not frozen. For a free soil test please send an email to freesctest@mailplus.wisc.edu. Private laboratories also offer testing services.

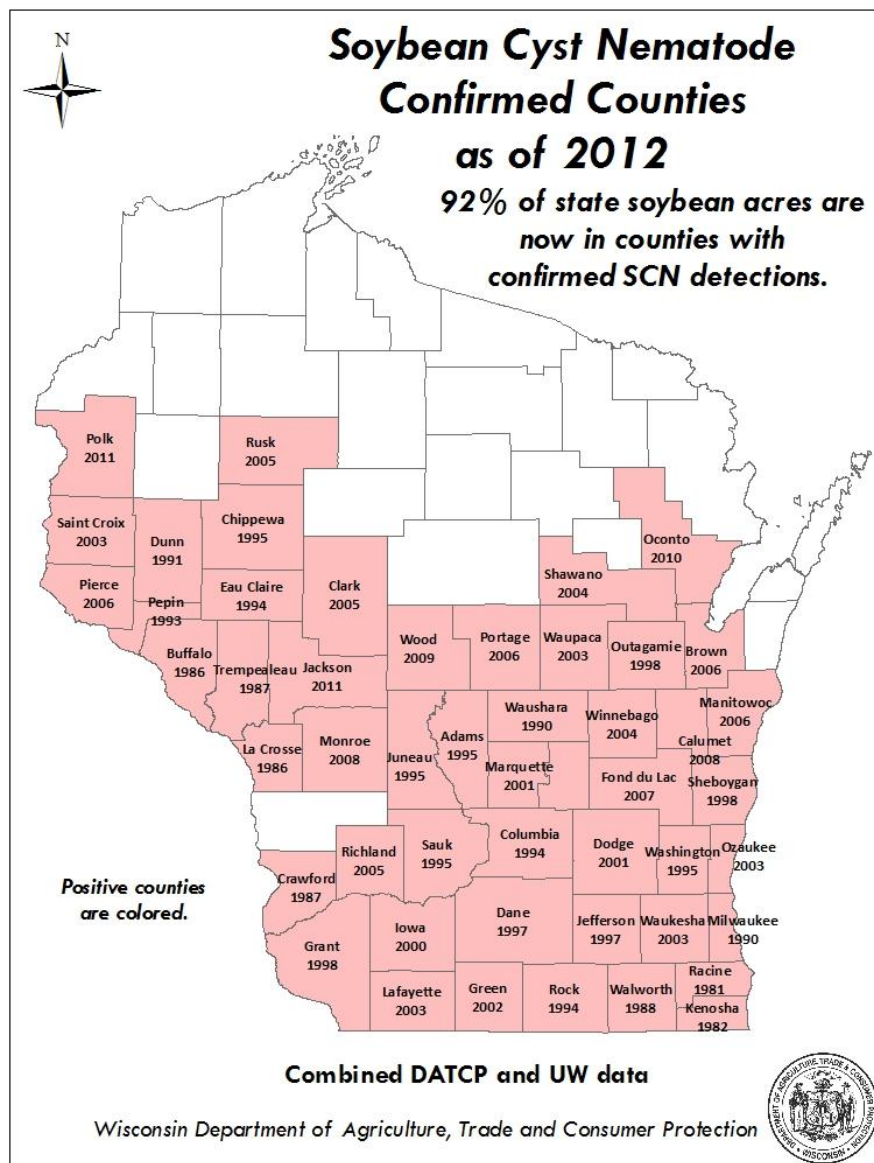


Figure 1.

Soybean cyst nematode can make soybeans more susceptible to other diseases like *Pythium*, *Rhizoctonia*, *Fusarium* (sudden death syndrome) and *Macrophomina* (charcoal rot). SCN infects a variety of crops beside soybeans, such as beans and peas, and common weeds that can serve as a reservoir.

For management information by the University of Wisconsin Field Crop Pathology, see website: <http://fyi.uwex.edu/fieldcroppathology/soybean/>

History of Soybean cyst nematode (SCN) in Wisconsin

SCN (*Heterodera glycines*) was first detected in the U.S. in 1954, in Hanover County, North Carolina. Survey efforts in 1957, 1958 and 1962 did not find this nematode in Wisconsin. Annual statewide soil surveys by DATCP and University of Wisconsin began in 1978. A federal quarantine for SCN established in 1957 was lifted in 1972 because it was deemed ineffective. SCN was brought to Wisconsin in 1980 on infested cabbage transplants from Tennessee, even though cabbage is not a host. By 1981, the first soybean field was found infested with SCN in Racine County. Continued annual statewide soil testing documented the spread of this nematode in Wisconsin county by county. Starting in 1996 the survey effort focused on non-infested counties neighboring infested counties.

Wisconsin Soybean Cyst Nematode Survey 1978 to 2012

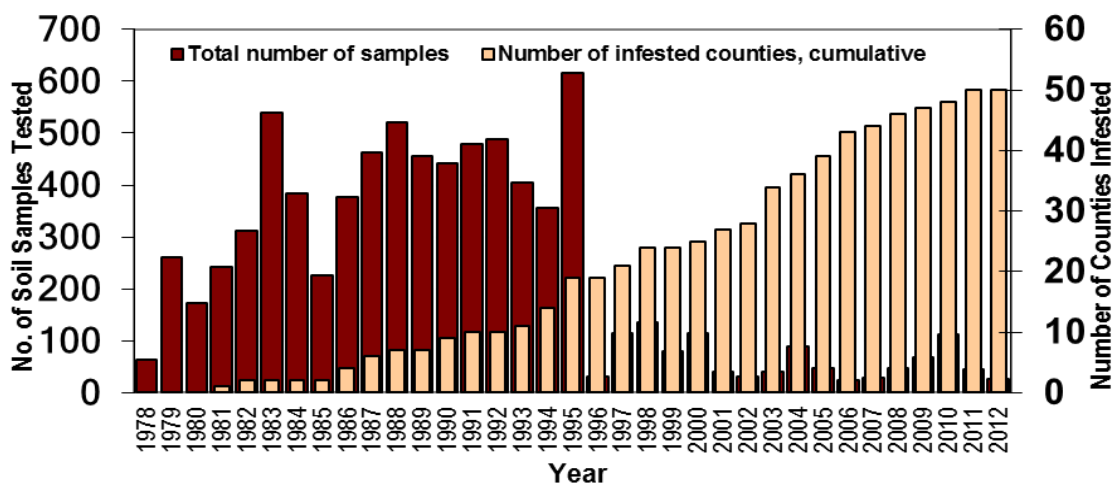


Figure 2. shows the number of soil samples collected over 40 years of survey and the increasing cumulative number of Wisconsin counties found to be infested with SCN.

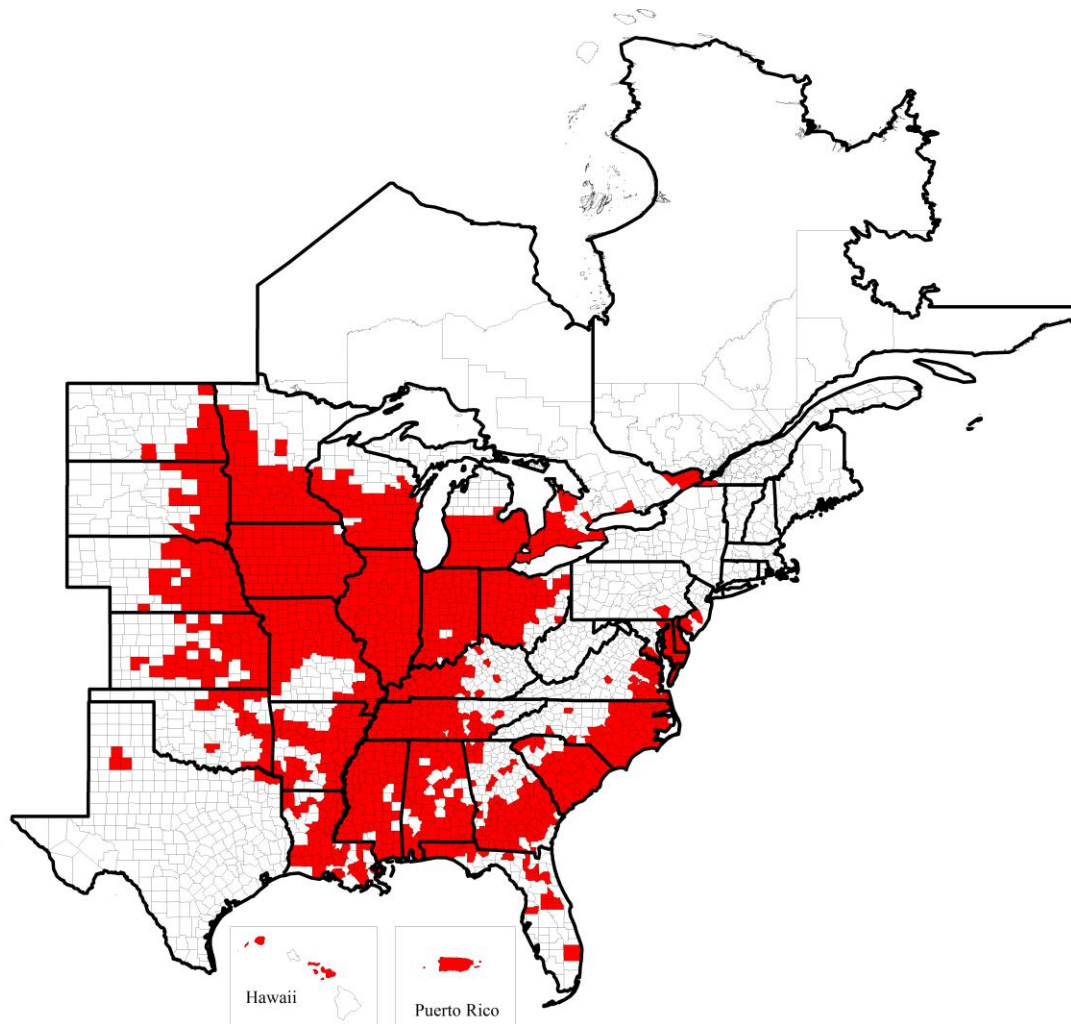


Figure 3. Distribution of soybean cyst nematode in Canada and the US (Tylka 2014).

Reference

- (1) Wrather, J. A. University of Missouri-Delta Center, P.O. Box 160, Portageville, MO 63873, and Steve Koenning, North Carolina State University, "Soybean Disease Loss Estimates for the United States, 1996-2007".
- (2) Tylka, G. L., and Marett, C. C. 2014. Distribution of the soybean cyst nematode, *Heterodera glycines*, in the United States and Canada: 1954 to 2014. doi:10.1094/PHP-BR-14-0006.

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